

## SHORT COMMUNICATION

***Paracaleana ferricola* (Orchidaceae), a new, rare species from the south-west of Western Australia**

***Paracaleana ferricola*** A.P.Br. & G.Brockman, *sp. nov.*

*Type:* Canning Mills, Western Australia [precise locality withheld for conservation reasons], 18 November 2017, G. Brockman GBB 3571 (*holo:* PERTH 08961646; *iso:* CANB).

*Paracaleana* sp. Laterite (G. Brockman GBB 3571), Western Australian Herbarium, in *FloraBase*, <https://florabase.dpaw.wa.gov.au/> [accessed 23 July 2018].

*Illustration.* A.P. Brown, K.W. Dixon, C.J. French & G. Brockman, *Field Guide to the Orchids of W. Austral.*, p. 305 (2013), as *Paracaleana* sp. ‘Darling Range’.

An erect perennial geophytic *herb* to 10 cm high. *Plants* solitary, more rarely in small groups. *Tuber* oblong, 6–11 mm long, 3–6 mm wide, white, annually replaced with a new tuber produced at the end of an elongate descending side-dropper (root-like stolon). *Leaf* solitary, basal, erect to spreading, withered or more rarely fresh at anthesis; *lamina* when fresh 10–20 mm long, 5–8 mm wide, glabrous, thin, narrowly elliptic to ovate, flattened in TS, dark maroon above and below, apex acute to obtuse. *Scape* 6–10 cm tall, wiry, dull brownish maroon and greenish yellow, with floral bract(s) erect, sheathing, foliaceous, acuminate; pedicels 5–15 mm long. *Flowers* solitary, rarely paired, nonresupinate, inverted, glabrous, greenish yellow and pale maroon with darker maroon blotches and markings; floral odour undetectable to humans but known to attract male thynnid wasps. *Sepals* and *petals* similar in shape, narrowly linear, margins revolute, apices narrowly clavate to acute. *Dorsal sepal* 7–10 mm long, 1–1.5 mm wide, splayed downwards, appressed against the column and distinctly elbowed in terminal 1/4 to 1/3, apex narrowly clavate. *Lateral sepals* 7–10 mm long, 1 mm wide, splayed downwards, usually away from the column wings, distinctly elbowed in terminal 1/4 to 1/3, apex not clavate. *Petals* narrower than sepals, 6–9 mm long, 0.5 mm wide, splayed downwards, appressed to column wings, shallowly curved, apex not clavate. *Labellum* motile, stiffly sprung on a long broadly rhomboidal claw 3–5 mm long, 1.5–2 mm wide, attached to the front of the extended column foot, the claw upcurved when set, recurved when sprung, terminating in a triangular apex extending backwards off the base of the labellum lamina; *lamina* 8–10 mm long, 2.5–3 mm wide, undivided, narrowly lageniform, entire, flattened or sometimes with a slight hump at 2/3 its length with a shortly projecting narrowly triangular neck-like narrowly obtuse apex; lamina calli sessile, irregularly hemispheric, smooth, black, glossy, confined to the apical 1/3 to 1/2. *Column* 6–10 mm long, downcurved, 2-winged; the wings 3–4 mm wide, broadly rectangular, incurved, somewhat opaque, greenish to greenish maroon with darker maroon blotches and markings. *Anther* 1.5–2 mm long, 1.5–2 mm wide, yellowish green, obtuse, not terminating in a definite point. *Pollinia* 1.5–2 mm long, four, lamellate, granular, yellow. *Stigma* ovate, 1.5–2 mm long, 1.5–2 mm wide, dull yellow. Ovary narrowly pyramidal, greenish yellow with brownish maroon longitudinal stripes. *Capsule* not seen. (Figure 1)

*Diagnostic features.* *Paracaleana ferricola* may be distinguished from all other members of the genus by the following combination of characters: leaf elliptic to ovate, dark maroon above and below, apex



Figure 1. *Paracaleana ferricola*. A – flowering plants *in situ* at the type locality showing the sometimes paired flowers, thin wiry stems and basal leaves which are often withered at anthesis, B – flower, showing the narrow sepals and petals, broadly winged column and motile labellum with calli confined to the apical 1/3 to 1/2, C – habitat showing the iron-rich lateritic soils occupied by the species and associated vegetation including *Banksia sessilis* and *Xanthorrhoea preissii*. Photographs by A. P. Brown.

acute to obtuse, withered or rarely fresh at anthesis; labellum lamina entire, flattened, sometimes with a slight hump at 2/3 its length, with calli confined to the apical 1/3 to 1/2.

*Other specimens examined.* WESTERN AUSTRALIA: [localities withheld for conservation reasons] 6 Dec. 2005, G. Brockman 1694 (PERTH); 30 Oct. 2006, G. Brockman 1986 (PERTH); 5 Nov. 2002, F. & J. Hort 1892 (PERTH); 14 Nov. 2002, F. & J. Hort 1908 & G. Brockman (PERTH).

*Phenology.* Flowering from late October to early December. Fruiting December.

*Distribution and habitat.* Found over a small geographic range east of Perth, growing in lateritic soils containing an unusually high amount of Haematite. The habitat is open *Allocasuarina fraseriana*, *Corymbia calophylla*, *Eucalyptus marginata* woodland over *Banksia sessilis* and *Xanthorrhoea preissii* (Figure 1).

*Conservation status.* Currently listed as Priority Two under Conservation Codes for Western Australian Flora (Smith & Jones 2018), under the name *P. sp.* Laterite (G. Brockman GBB 3571). The species is known from two small populations 1.8 km apart in Korung National Park, these together comprising just 30 mature plants in an area threatened by altered fire regimes, dieback and habitat damage by off-road vehicles.

*Etymology.* The epithet *ferricola* is derived from the Latin *ferrum* (iron) and the suffix *-cola* (dweller or inhabitant) in reference to the iron-rich lateritic soils occupied by this species.

*Affinities.* *Paracaleana ferricola* is most similar to *P. disjuncta* Hopper & A.P.Br. and like that species has a late flowering period, a leaf that is often withered at anthesis and a small greenish yellow and maroon flower. It is distinguished, however, by its smaller flower with petals and sepals 6–10 mm long (*cf.* 8–12 mm long for *P. disjuncta*), sometimes slightly humped, narrower labellum 2.5–3 mm wide (*cf.* labellum lacking a hump and 3–5 mm wide for *P. disjuncta*), labellum lamina calli confined to the apical 1/3 to 1/2 (*cf.* labellum lamina calli confined to the apical 1/3 for *P. disjuncta*) and narrower column wings, 3–4 mm wide (*cf.* column wings 4–6 mm wide for *P. disjuncta*). Furthermore *P. ferricola* occurs some 250 km to the north of the nearest known population of *P. disjuncta* and occupies lateritic soils *vs* the sandy soils favoured by that species.

At the type location *P. ferricola* grows with *P. nigrita* (Lindl.) Blaxell and *P. brockmanii* Hopper & A.P.Br., but flowers over a month after *P. nigrita* has finished flowering and is in late flower when *P. brockmanii* begins flowering. It is distinguished from *P. nigrita* by its labellum either lacking a hump or with a slight hump at 2/3 its length (*cf.* labellum prominently humped at 1/2 its length for *P. nigrita*) and its lamina calli confined to the apical 1/3 to 1/2 the length of the labellum (*cf.* lamina calli confined to the apical 2/3 the length of the labellum for *P. nigrita*).

From *P. brockmanii*, *P. ferricola* is distinguished by its smaller flowers with petals and sepals 6–10 mm long (*cf.* 10–15 mm long for *P. brockmanii*), smaller, narrower labellum 8–10 × 2.5–3 mm (*cf.* 9–12 × 4–7 mm for *P. brockmanii*) and shorter column 6–10 mm long (*cf.* 10–12 mm long for *P. brockmanii*).

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### Andrew P. Brown<sup>1</sup> and Garry Brockman

Western Australian Herbarium, Biodiversity and Conservation Science,  
Department of Biodiversity, Conservation and Attractions,  
Locked Bag 104, Bentley Delivery Centre, Western Australia 6983

<sup>2</sup>Corresponding author, email: [andrewbrown3@optusnet.com.au](mailto:andrewbrown3@optusnet.com.au)